**Supplementary Data**

Table S1. Seawater carbonate chemistry data (mean ± SD) for the different climate change and contamination scenarios (n = 4).

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Non-contaminated | | | | | | | | | | | | | | | |
|  | 19 °C | | | | | | |  | 23 °C | | | | | | | |
|  | 8.0 | | |  | 7.5 | | |  | 8.0 | | |  | 7.5 | | | |
| *measured* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Temperature (°C) | 19.1 | ± | 0.2 |  | 19.2 | ± | 0.1 |  | 23.2 | ± | 0.1 |  | 23.2 | ± | 0.2 | |
| Salinity | 35.0 | ± | 0.8 |  | 35.3 | ± | 0.5 |  | 35.0 | ± | 0.8 |  | 35.0 | ± | 0.8 | |
| pHT | 8.03 | ± | 0.01 |  | 7.52 | ± | 0.01 |  | 8.03 | ± | 0.01 |  | 7.52 | ± | 0.01 | |
| AT (µmol kg-1 SW) | 2206.1 | ± | 18.0 |  | 2205.1 | ± | 20.3 |  | 2200.7 | ± | 12.5 |  | 2214.6 | ± | 18.4 | |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |
| *calculated* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |
| *p*CO2 b(ppm) | **391.2** | **±** | **17.1** |  | **1454.5** | **±** | **38.8** |  | **403.9** | **±** | **14.2** |  | **1481.8** | **±** | **32.4** | |
| CT (µmol kg-1 SW) | 1965.9 | ± | 18.1 |  | 2162.0 | ± | 20.8 |  | 1936.2 | ± | 13.4 |  | 2155.5 | ± | 18.7 | |
| Ω Ar | 2.63 | ± | 0.11 |  | 0.95 | ± | 0.02 |  | 2.94 | ± | 0.09 |  | 1.10 | ± | 0.04 | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Contaminated | | | | | | | | | | | | | | | | | |
|  | 19 °C | | | | | | |  | 23 °C | | | | | | | |  | |
|  | 8.0 | | |  | 7.5 | | |  | 8.0 | | |  | 7.5 | | | |  | |
| *measured* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |
| Temperature (°C) | 19.3 | ± | 0.1 |  | 19.2 | ± | 0.2 |  | 23.2 | ± | 0.2 |  | 23.3 | ± | 0.2 | |  | |
| Salinity | 35.3 | ± | 0.5 |  | 35.0 | ± | 0.8 |  | 35.0 | ± | 0.8 |  | 35.0 | ± | 0.8 | |  | |
| pHT | 8.01 | ± | 0.01 |  | 7.51 | ± | 0.01 |  | 8.01 | ± | 0.01 |  | 7.51 | ± | 0.01 | |  | |
| AT (µmol kg-1 SW) | 2212.2 | ± | 8.8 |  | 2203.6 | ± | 15.3 |  | 2210.1 | ± | 9.7 |  | 2226.7 | ± | 10.9 | |  | |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  | |
| *calculated* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  | |
| *p*CO2(ppm) | **410.9** | **±** | **9.2** |  | **1485.6** | **±** | **30.0** |  | **416.2** | **±** | **9.2** |  | **1531.3** | **±** | **48.0** | |  | |
| CT (µmol kg-1 SW) | 1978.2 | ± | 9.2 |  | 2164.1 | ± | 14.3 |  | 1950.3 | ± | 10.5 |  | 2170.4 | ± | 10.9 | |  | |
| Ω Ar | 2.58 | ± | 0.05 |  | 0.92 | ± | 0.02 |  | 2.90 | ± | 0.07 |  | 1.09 | ± | 0.03 | |  | |